

REMARKS

Favorable consideration and allowance of the claims of the present application are respectfully requested.

As a preliminary matter, applicants have amended the specification paragraph [0017] to correct minor typographical errors. The Examiner is respectfully requested to consider and enter the minor amendments to the specification.

In the present Official Action, Claims 31-35 were first rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. Applicants in response have canceled Claims 31-35 and request withdrawal of this rejection and remaining rejections of these canceled claims.

Further in the Official Action, the Examiner had rejected Claims 1-35 under 35 U.S.C. §112, second paragraph, as allegedly indefinite for particularly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly with respect to independent Claims 1 and 18, the Examiner alleges that the phrase “determining satisfaction of said switching criterion” is indefinite.

In response, applicants have amended Claims 1 and 18 to set forth with more particularity the invention. For instance, Claim 1 is being amended herein to set forth the following:

A method implemented by a computing device for real-time dynamic switching between a first service provider providing a Web-based service for users at a user's computer device over a communications network and a second service provider adapted for providing said service for users at a user's computer device, said method comprising the steps of:

automatically monitoring said communications network for determining compliance of service-level guarantees by said first service provider at said user's computer device; and,

upon determining non-compliance of said service-level guarantees, locating a second service provider for providing said service according to said service-level guarantees;

replicating state information associated with said user's use of said service provided by said first service provider at said user's computer device;

terminating provision of said service provided by said first service provider; and
switching service provision to said user's computer device from said second service provided over said communications network; and,

migrating said state information maintained up to the time of switching to said service provided by said second service provider, wherein the switching occurs in a manner substantially transparent to a user.

It is noted relevant portions of Claim 2 are being canceled and incorporated in amended Claim 1.

Thus, applicant's have removed in Claim 1 any reference to a "switching criterion" for deciding when to switch service provision between said first service provider and second service provider and has set forth the actual steps to effect the dynamic switching of Web service provisioning. Accordingly, applicants have further amended Claims 10-13 to amend language that is unsupported in view of the amendment to Claim 1.

Claim 18 is being similarly amended and is now set forth as follows:

A system for real-time dynamic switching between a first service provider providing a Web-based service for users at a user's computer device over a communications network and a second service provider adapted for providing said service for users at a user's computer device, said system comprising:

a computer-implemented means for automatically monitoring said communications network for determining compliance of service-level guarantees by said first service provider at said user's computer device; and,

a computer-implemented means responsive to determining non-compliance of said service-level guarantees, for locating a second service provider for providing said service according to said service-level guarantees, said means replicating state information associated with said user's use of said service provided by said first service provider at said user's computer device and terminating provision of said service provided by said first service provider; and, for switching service provision to said user's computer device from said second service provided over said communications network and migrating said state information maintained up to the time of switching to said service provided by said second service provider, wherein the switching occurs in a manner substantially transparent to a user.

It is noted relevant portions of Claim 19 are being canceled and incorporated in amended Claim 18.

Respectfully, no new matter is being entered by this amendment as fully support may be found in the specification, e.g., at paragraphs [0018], [0022], which describe example implementations directed to monitoring compliance with a service level agreement (see paragraph [0018] of the present specification. That is, in the exemplary embodiment, paragraphs [0018], [0022] of the specification describe implementation of an automated means for assessing a service provider's compliance with a service-level agreement, for example, and switching to a second service provider's provisioning of said service at said guaranteed service levels. Applicants' respectfully submit these limitations added to amended Claim 1 and 18 render the claims clear and definite and are fully supported in the specification. Moreover, the amended

Claims 1 and 18 recitation of provisioning Web-based services by first and second providers for users at a user's computer device over a communications network is fully supported in the specification (See Fig. 1, paragraphs [0013] and [0016-0022]).

In view of the foregoing, the Examiner is requested to withdraw the rejections based on 35 U.S.C. §112, second paragraph.

Further in the Office Action, the Examiner rejected Claims 18-35 under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. Particularly, the Examiner alleges that the recited “means for” elements constitutes non-functional descriptive material (i.e., non-statutory software). However, applicants’ respectfully disagree in that Claim 18, as amended, does in fact recite a practical application (Web-based service provisioning) that provides a useful, tangible and concrete result (switching service provision to said user’s computer device from a first service provider to a second service provider based on detected satisfaction of some criteria) that is not merely an abstract idea (software per se). The positive recited steps of the system shown in Fig. 1 provides computer-implemented means for automatic monitoring of a communications network for determining compliance of service-level guarantees by said first service provider at said user’s computer device; and, a computer-implemented means responsive to determining non-compliance of said service-level guarantees, for locating a second service provider for providing said service according to said service-level guarantees, said means replicating state information associated with said user’s use of said service provided by said first service provider at said user’s computer device and terminating provision of said service provided by said first service provider; and, for switching service provision to said user’s computer device from said second service provider over said communications network and migrating said state information maintained up to the time of switching to said service provided

by said second service provider, wherein the switching occurs in a manner substantially transparent to a user.

These, it is submitted provide a useful, tangible and concrete result and as such, comprises statutory subject matter. The Examiner is respectfully requested to withdraw the rejection of claims 18-30 (Claims 31-35 are canceled) under 35 U.S.C. §101.

Further in the Office Action, Claims 1, 2, 4, 6-10, 12-14, 17-21, 23-28, 31, 32 and 34 were rejected under 35 U.S.C. §102(e) as allegedly anticipated by Ishiyama et al. (US Patent Pub. US 2005/0102415) ("Ishiyama").

With respect to the rejections of Claims 1 and 18, Applicants respectfully disagree in view of the amendments herein.

Ishiyama is concerned with IP v6 issues in multi-homed systems. That is, if a user is in session with a given application on a server, and if the route from the user's computer to the server is broken because of a failure of the ISP, the user allegedly may utilize a route through another ISP to continue his or her session with the application. However, the present invention as claimed in Claims 1 and 18, now amended, is different and respectfully, is neither taught nor suggested by Ishiyama. In the present invention, a service is provided that would monitor user sessions and would choose alternate ISPs or application providers based on whether or not certain service qualities were acceptable, i.e., service level guarantees complied with. Note the crucial distinction: the present invention is concerned with any service provided over the Internet, not just ISPs (ISPs were discussed in the present specification for purposes of providing an example).

Thus, it seems that in this rejection, the Examiner's appears to equate "switching services" (of the present invention) as equivalent to "routing," (as per Ishiyama's teaching).

More specifically, the Examiner appears to base the rejection of routing of packets between a user and an application residing on a server. Routing is just one method by which the choice of an alternate service provider can be made transparently. For example, the switching service that is disclosed in the present specification may be a broker for two or more alternate implementations of a given service. The communication between the user computer and the service may pass through the broker, but the broker may communicate with the different service implementations in any manner including a manner which does not rely on packet communication. For example, the broker may reside in a logical partition of a computer and the different service providers may reside in other logical partitions. Switching a user from one provider to another implies that the broker's pattern of cross-partition calls will change, but there is no routing involved.

In a second point of distinction: the criteria for switching service providers in the present invention is much more general than that of Ishiyama. In order for Ishiyama's invention to switch application providers, it would have to be aware of such things as the prevalence of spam, or the usability of the user interface, neither of which is known to a router as taught by Ishiyama. Monitoring for the correlating of the criteria on which the switching is performed cannot be done by a router, because that router does not have access to the internal functioning of a service which is currently in use. Thus, the monitoring that the Examiner refers to in the paragraph bridging pages 4 and 5 of the office action is inadequate to determine the switching criteria that the present invention is concerned with (i.e., compliance of service-level guarantees by a first service provider at a user's computer device). Thus, on page 5 of the present Office Action, it appears that the Examiner is attempting to equate application session state with connectivity alone. That is, the examiner cites only connectivity as the state that is migrated. Of course, there

is much more to session state than connectivity. The security state is a good example. Routers are blissfully unaware of the security state of a session: if they were aware of this state it would be a critical violation of security! Essentially, knowledge of Ishiyama is not sufficient to solve the problem of transparent service provider switching. The Examiner's application of Ishiyama with respect to the objection to Claim 8 on page 6 of the Office Action appears likewise misplaced.

Moreover, the applicants respectfully disagree as to the rejection of Claim 13 directed to further switching criterion, i.e., service level compliance based on a relative ease of use for a plurality of users, a relative cognitive load or, the relative occurrence of SPAM. In fact, applicants respectfully fail to see any teaching in Ishiyama in this regard, i.e., Ishiyama is completely silent on all of those advanced service level compliance criteria set forth in Claims 13 and 27, because the routers as taught in Ishiyama have no access to anything that correlates with them.

With respect to the further rejections of Claims 3, 5, 11, 15-16, 22 and 29-30 under 35 U.S.C. §103(a) as allegedly unpatentable over Ishiyama in view of further prior art, applicants respectfully disagree in view of the arguments made herein, and, further in view of their respective dependencies. For example, in connection with the rejection of Claim 3, as being unpatentable over Ishiyama in view of Ito et al. (Patent Pub. US 2005/0102415) ("Ishiyama"), applicants respectfully disagree.

On page 11 of the Office Action, in connection with the rejection of Claims 3 and 20, the Examiner appears to have combined Ito and Ishiyama to claim precedence for fee-based switching as claimed in Claim 3. Rather, Ito just allows the user to see what the fees are! This does not facilitate automatic switching among service providers based on the fees they charge as

intended by Claims 3 and 20. In fact, the last thing a service providing entity would want to do is to display the fees to the user. Thus, the invention requires and the Claims set forth the ability to switch providers automatically and transparently such that the user is charged the least possible for the service.

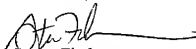
On pages 12-13 of the Office Action, in connection with the rejection of Claim 11, there is exemplified the extreme lengths the Examiner has to go to in order to use Ishiyama. It is completely unsupportable that auction-based fees could be used as a switching criteria for a router-based system when taken in view of the O'Brien reference (US 6,587,831).

Thus, the present invention, provides the following advantages, neither taught nor suggested by Ishiyama whether taken alone or in combination with Ito, O'Brien or any other references as applied by the Examiner in the Office Action.

Thus, in view of the foregoing, the Examiner is respectfully requested to withdraw the rejections of Claims 1 and 18 under 35 U.S.C. §102(e) and, additionally, withdraw the rejections of all remaining Claims under 35 U.S.C. §103(a).

In view of the foregoing, this application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might expedite prosecution of this case, it is respectfully requested that he call applicant's attorney at (516) 742-4343.

Respectfully submitted,


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